

Title (en)

PROCESS FOR THE MANUFACTURE OF RUTILE TITANIUM DIOXIDE POWDERS

Title (de)

VERFAHREN ZUR HERSTELLUNG VON RUTILTITANDIOXIDPULVER

Title (fr)

PROCÉDÉ DE FABRICATION DE POUDRES À BASE DE DIOXYDE DE TITANE RUTILE

Publication

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Application

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Abstract (en)

[origin: WO2009062608A1] This invention pertains to a process for producing ultra-fine rutile titanium dioxide powders. This particular compound is useful as UV-blocker in paints, plastics, coatings, pigments and sunscreens. The new process comprises the steps of providing a hot gas stream and of introducing therein firstly: - a titanium-bearing first reactant; and - a carbon- and/or nitrogen-bearing second reactant; the temperature of said gas stream being chosen so as to vaporize said first and second reactants, these being selected so as to form, at the prevalent temperature, titanium carbide, titanium nitride or a mixture thereof, as a nano-sized precursor; and, thereafter: - a volatile oxygen-bearing reactant selected so as to react with the nano-sized precursor, converting it to nano-sized titanium dioxide powder having a rutile content of at least 50%. This reaction scheme allows for the manufacture of powders with or without doping elements with a primary particle size between 1 and 100 nm.

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